Key Questions for Setting Efficiency Standards and Labeling Requirements for Landscape Irrigation Equipment

Staff Technical Workshop

June 1, 2009

1. How do we define water "wastes", and how do these "wastes" occur in landscape irrigation practices? What are the different categories of wastes and strategies for mitigating them?

2. How are landscape irrigation controllers, both weather based and moisture sensor based or add-on devices, expected to help reduce these wastes? How effective are they in actually reducing waste of water in landscape irrigation?

3. Definitions of specific terms and equipment are required for any standards or labeling requirements. What are the applicable definitions for irrigation equipment, performance metrics and functions to be regulated? Are all the definitions used for the terms for this equipment agreed-to within the industry? If so, what is that terminology and what are the related definitions?

4. How do we minimize water use increases and maximize water use savings with an efficiency standard for landscape irrigation devices? What performance metrics must be included in such a standard (i.e., flow or application rate, pressure, net volume applied, duration, etc…)?

5. What measurements/protocols are used to verify these savings? Can these methods be applied to all types of controllers? If not, what adjustments must be made to more equitably compare different types of controllers? Sensors? Emitters? Valves?

6. Do we have definite measurements of efficiency or quantity of water and/or energy being saved by the use of either aforementioned controllers? How does this compare to add-on devices to traditional timers? Could standard or traditional timer-based controllers achieve similar savings? If so, how?

7. Is there a common characteristic or operational element that can be defined between "smart" and "dumb" controllers that could be the basis of a performance standard for water savings? For energy savings?

8. What are the mandatory or required elements of an irrigation system to ensure increased efficiency?

9. Are new controllers or add-on devices compatible to existing irrigation systems? What difference in performance is there between new and modified systems?

10. Do we know whether the uses of the weather or moisture sensor based controllers (or add-on devices) would result in a statewide net saving of water use compared to current time setting or clock controllers? How much? What should be the minimum expected water savings and energy savings of an efficiency performance standard for controllers? Sensors? Emitters? Valves?

11. What key elements or information are required for label content of landscape irrigation equipment (controllers, sensors, emitters, valves) to properly inform customers about potential of these devices to save water or energy? What content is required to ensure adequate understanding and installation to ensure desired performance? Where should labels be placed (on the device packaging, on the device itself, on informational documentation included with the device, etc…)?

12. Is there adequate evidence to substantiate a specific standard of performance for all controllers? Sensors? Emitters? Valves? If not, what analyses or evidence is required?

13. The Energy Commission must do a cost benefit analysis as defined by statute. What costs should be used for a unit of water saved (i.e., current average statewide average cost per gallon; marginal cost of next increment of new water to statewide supplies such as ocean desalination, etc…)? What costs should be used for a unit of energy (i.e., current statewide electric or natural gas average cost per watt; marginal cost of next increment of new generation or natural gas supplies, etc…)?

14. What is the expected average operational life of landscape irrigation equipment: controllers, sensors, emitters, valves? What is the design life of these devices (required information to evaluate costs to consumers)? What are the retail costs of these devices? How are these costs expected to change over the next 10 years?

15. AB 1881 requires the Energy Commission to prohibit the sale and installation of non-compliant equipment on or after January 1, 2012. How should the Energy Commission enforce the prohibition of the sale or installation of non-compliant devices? What partners should the Energy Commission collaborate with and what role should these partners play?

16. Are there any special operational or regulatory considerations needed for systems that use recycled water?

17. What on-going data collection requirements are needed to ensure the compliance of regulated irrigation equipment with the standards?